

WE CLAIM:

1. A solid state light apparatus, comprising:
 a housing having a cavity;
 an area array of light emitting diodes (LEDs) disposed in said housing cavity and generating a light beam; and
 a unitary cover coupled to said housing and disposed across said cavity, said cover having an integral inner portion and outer portion, said inner portion being convex and shaped as a lens, said lens transmitting said light beam emitted by said LED area array, and said outer portion extending outwardly from said lens.
2. The solid state light apparatus specified in Claim 1 wherein said unitary cover is transparent.
3. The solid state light apparatus specified in Claim 2 further comprising a light diffuser positioned closely proximate said LED array and adapted to mix and direct said light beam.
4. The solid state light apparatus specified in Claim 1 further comprising an electronic detection device disposed in said housing cavity and being viewable through said transparent cover second portion.
5. The solid state light apparatus specified in Claim 4 wherein said electronic device comprises a camera.

5. 6. The solid state light apparatus specified in Claim 1 wherein said unitary cover is sealingly coupled to said housing and adapted to retard environmental elements from communicating with said housing cavity.

7. The solid state light apparatus specified in Claim 1 wherein said cover outer portion encompasses said cover inner portion.

8. The solid state light apparatus specified in Claim 1 wherein said cover inner portion has a circular periphery.

9. The solid state light apparatus specified in Claim 8 wherein said cover outer portion has a rectangular periphery.

10. The solid state light apparatus specified in Claim 1 wherein said unitary cover is comprised of a plastic material.

11. The solid state light apparatus specified in Claim 1 wherein said unitary cover is comprised of a glass material.

12. The solid state light apparatus specified in Claim 1 wherein said unitary cover is formed by a molding process.

13. The solid state light apparatus specified in Claim 1 wherein said cover outer portion includes a second lens separated from said inner portion lens.

14. The solid state light apparatus specified in Claim 1 wherein said light beam has an intensity complying with DOT requirements.

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15. The solid state light apparatus specified in Claim 1 wherein each said LED comprises a semiconductor die.

16. The solid state light apparatus specified in Claim 15 wherein each said LED die generates a light source being generally perpendicular to said respective LED die.

17. The solid state light apparatus specified in Claim 1 wherein said lens is a prism or clear lens, with a prism attached.

18. The solid state light apparatus specified in Claim 1 wherein said lens comprises a prism.

19. A method of controlling traffic using a solid state light apparatus, comprising:

a housing having a cavity;

an area array of light emitting diodes (LEDs) disposed in said housing cavity and generating a light beam; and

a unitary cover coupled to said housing and disposed across said cavity, said cover having an integral inner portion and outer portion, said inner portion being convex and shaped as a lens, said lens transmitting said light beam emitted by said LED area array, and said outer portion extending outwardly from said lens;

comprising the step of:

selectively operating said light apparatus at a roadway intersection.

~~18~~ 20. The solid state light apparatus specified in Claim ~~18~~ further comprising an electronic detection device disposed in said housing cavity and being viewable through a transparent portion of said cover second portion, wherein said electronic device comprises a camera.

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